10/524129

DT05 Rec'd PCT/PT0 1'0 FEB 2005

[10191/3730]

on to Substitute enter: Specification Man 10-20-07

METHOD, COMPUTER PROGRAM AND OPEN- AND/OR CLOSED-LOOP CONTROL UNIT FOR OPERATING AN ACTUATOR HAVING A CAPACITATIVE ELEMENT, AND INTERNAL COMBUSTION ENGINE

5

10

## FIELD OF THE INVENTION

The present invention relates to a method for operating an actuator having a capacitative element, an ohmic resistance being connected in parallel with the capacitative element and the value of the ohmic resistance being sensed at specific points in time.

## BACKGROUND INFORMATION

15

20

A method is referred to in Published Patent Application No. DE 199 58 406 Al, which describes a piezoactuator that is used, for example, in a fuel injector. The piezoactuator behaves similarly to a capacitative element in electrical terms, and is therefore itself often referred to as a capacitative element. The capacitative element is longer or shorter depending on its charge state. The change in length of the capacitative element is transferred to a valve element of the fuel injector.

25

30

In the event of an interruption in activation of the capacitative element, or a malfunction of one of the components, it may happen that the capacitative positioner remains continuously in one specific position because it can no longer be discharged. In a context of use in a fuel injector, the result of this may be, for example, that the

NY01 931285 v1

1 SUBSTITUTE SPECIFICATION